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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,807	09/22/2000	MARK A: DARTY	104175	9676

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EXAMINER

ALPHONSE, FRITZ

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 09/11/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

11

Office Action Summary

Application No.
09/667,807

Applicant(s)

Darty

Examiner
Fritz Alphonse

Art Unit
2675



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 12, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan (U.S. Pat. No. 4,126,854) in view of Sheridan (U.S. Pat. No. 5,344,594).

As to claim 1, Sheridan(854) (figs. 1-7) teaches about a display system, comprising: a carrier body (i.e., cavity 16) that defines at least one channel, at least one particle (14) disposed in the at least one channel; and a controller (i.e., power source 19) that moves and rotates the at least one particle (14) located inside of the at least one channel (col. 3, lines 35 through col. 4, line 25).

Sheridon(854) does not teach about one channel extending in a direction of extension. However, this limitation is disclosed by Sheridan(594). See column 5, lines 12-20.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the twisting ball panel display of Sheridan(854) with Sheridan(594). Doing so would provide much more brightness to the display system.

As to claim 2, Sheridan (figs. 1-7) teaches about a display, further including a bottom cover (substrate 8) disposed at a bottom end of the display, and a top cover (transparent substrate

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6) disposed at the top, the bottom and top covers preventing the at least one particle (14) from exiting the at least one channel.

As to claims 3-4, Sheridan does not teach about a lens disposed at a top surface of the top cover.

However, this is very obvious. It would have been obvious to one of ordinary skill in the art at the time the invention was made to dispose a lens at a top surface of the top cover. Doing so would provide a display system with high quality image and with less unevenness.

As to claim 5, Sheridan (figs. 1-7) teaches about the display including a fluid disposed in the at least one channel, and the top and bottom covers (6, 8) are affixed at the top and bottom ends of the at least one channel to prevent the fluid from exiting the at least one channel.

As to claims 8-10, Sheridan (figs. 1-7) teaches about a display, wherein the at least one particle is a solid, a liquid and micro-encapsulated (col. 5, lines 30-67).

As to claims 11-15, Sheridan (figs. 1-7) teaches about a display, wherein the carrier body is at least partially made of silicon (col. 4, lines 26-46), and the at least one particle is charged (col. 4, lines 6-25); the controller performs electrical bias of the gate in order to generate an electric field in order to move the at least one particle along the direction of extension of the at least one channel (see abstract).

As to claims 16-18, Sheridan (figs. 1-7) teaches about a display, wherein the controller includes an electrode ring (10', 12') disposed at one of a top end of the at least one channel and a bottom end of the at least one channel.

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As to claims 19-22, the claims have substantially the limitations of claims 1-2. Therefore, they are analyzed as previously discussed in claims 1-2 above.

As to claims 23-25, method claims 23-25 correspond to apparatus claim 1-2. Therefore, they are analyzed as previously discussed in claims 1-2 above.

3. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan(854) and Sheridan(594) as applied to claim 1 above, and further in view of Kitani (U.S. Pat. No. 5,837,414).

As to claims 6 and 7, Sheridan does not teach about multiple particles including at least one cyan particle, at least one yellow particle and at least one magenta particle. However, these limitations are clearly disclosed by Kitani (col. 11, lines 42-49).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve upon the toner for electrostatic image as disclosed by Kitani. Doing so would provide a method for forming a multicolor image wherein insufficient cleaning of the toner can be prevented.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ota (U.S. Pat. No. 3,668,106) discloses an electrophoretic display device.

Howard et al. (U.S. Pat. No. 6,222,513) discloses a charge retention islands for electric paper.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse whose telephone number is (703) 308-8534.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


F. Alphonse

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September 6, 2002


CHANH NGUYEN
PRIMARY EXAMINER